

ABSTRACT OF THE DISCLOSURE:

5 A modified wound closure system adapted to concurrently deliver phototherapy to a wound generally comprises a foam pad for insertion substantially into the wound site and a wound drape for sealing enclosure of the foam pad at the wound site. The foam pad is modified to comprise an optical pigtail, whereby a desired wavelength of light may be directed into and about the wound site. The foam pad is placed in fluid communication with a vacuum source for promotion of fluid drainage. The foam pad comprises a highly reticulated, open-cell polyurethane or polyether foam for good permeability of wound fluids while under suction and is also provided with an optical pigtail. The optical pigtail comprises an optical fiber that has been formed to fan into a plurality of sections. The fibers of the most distal fanned sections, which are implanted in the foam pad at its base, are provided with tiny optical slots, oriented away from the foam pad and toward the wound site. Each optical slot is made by stripping the cladding from the optical fiber in the desired areas of the fanned sections to form slot radiators. Because it is necessary to trim the foam pad in preparation for therapy, the optical fibers comprise plastics, such as acrylic or styrene. Upon placement of the pad, having the optical pigtail embedded therein, the wound drape is firmly adhered about the VAC therapy suction hose as well as the extending optical fiber to prevent vacuum leakage.

15